

CCSU
DEPARTMENT OF MATHEMATICAL SCIENCES
COLLOQUIUM

Monday, November 11

1:00 – 2:00 PM

Davidson Hall, Room 204

**AN APPLICATION OF GRADIENT
BOOSTED REGRESSION TREES AND
RANDOM FORESTS TO PROSPECT
DIRECT MARKETING RESPONSE MODELING**

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(Data Mining MS Thesis Presentation)

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Abstract: This thesis examines a specific example of mining a business-to-business (B2B) co-operative database for the purpose of selecting prospect units to which to market with a direct mail catalog. Specifically, we show the efficacy of using modern machine learning algorithms, Gradient Boosted Regression Trees and Random Forests, to build highly predictive models to forecast response of prospect units to direct mail marketing offers. Within this thesis, we examine the algorithms in detail, apply them to a real life problem and use the models to further explain the underlying processes associated with the identification of those most likely to respond to a marketing offer.

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